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Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Written *Ex Parte* Presentation
WT Docket No. 07-293; IB Docket No. 95-91

Dear Ms. Dortch:

Sirius XM Radio Inc. ("Sirius XM") provides this preliminary response to the WCS Coalition's recent letter attempting to support its request that the Commission eliminate the power spectral density ("PSD") limit of 50 mW/MHz on WCS mobile devices.¹

The WCS Coalition's latest submission suffers from the same deficiencies as its previous filings on this issue,² in that it demonstrates only the technology-specific characteristics of one particular wireless technology in combination with limited network deployment scenarios. However, in both its initial decision adopting WCS rules³ and its 2010 decision allowing for mobile operations,⁴ the Commission adopted a technology-neutral approach designed to accommodate a wide variety of technologies and business plans. Unless the Commission changes course and mandates the use of LTE technology, revising the rules to incorporate the WCS Coalition's operating assumptions for mobile broadband networks, the January 26 Letter cannot justify eliminating the PSD limit.

¹ Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 07-293, IB Docket No. 95-91 (filed January 26, 2012) ("January 26 Letter").

² See Letter from James S. Blitz and Terrence R. Smith, Sirius XM Radio Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 07-293 (filed January 11, 2012).

³ See Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, *Report and Order*, 12 FCC Rcd 10785 (1997).

⁴ Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, WT Docket No. 07-293, *Report and Order*, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, IB Docket No. 95-91, *Second Report and Order*, 25 FCC Rcd 11710 (2010) ("2010 Order")

The January 26 Letter supports the WCS Coalition's proposal through a flawed simulation study.⁵ As the Commission is well aware, the results of simulation studies are heavily biased by the assumed input parameters. Based on Sirius XM's preliminary review, the WCS Coalition appears to have simulated only certain operating parameters that minimize the possibility of worst case conditions for interference to satellite radio receivers -- an approach the WCS Coalition has used previously in this proceeding.

For example, the simulation limits the user equipment ("UE") device transmissions to 100 mW EIRP, even though the WCS rules allow for 250 mW EIRP.⁶ In addition, the simulation considers 10 or 15 UEs per cell sector, which is not representative of a fully loaded sector. By unrealistically limiting the number of UEs in a sector, the simulation fails to show that in an actual operating scenario, UEs would need to transmit at higher power levels to overcome inter-sector interference. Moreover, the simulation assumes a very dense and fully built out network having uniform spacing between cells, which further understates real-world interference conditions particularly during a network's build-out phase.⁷

The simulation also considers WCS operations in only the WCS A and B blocks, without assuming the likelihood that an independent WCS network would operate in the WCS C and D blocks. This omission minimizes the need for UEs operating in the A and B blocks to transmit at higher power levels to overcome the additional noise and interference from C and D devices, thereby skewing the simulation's results as it applies to satellite radio reception.

Finally, the interference constraints set by the simulation user can affect the UE uplink activity level and, as proven in the 2009 Ashburn, VA demonstrations attended by Sirius XM, WCS Coalition members, and Commission staff, this can influence the interference that WCS devices would create to satellite radio receivers.⁸ The WCS Coalition should therefore release the full simulation code so that Sirius XM and the FCC staff can fully assess the impact of the input parameters.

The 2010 Order's PSD limit for mobile WCS devices is essential to provide a minimum measure of interference protection for satellite radio receivers. If WCS licensees will exceed this threshold only rarely, as the Coalition claims, then retaining the limit will impose only a minimal restriction on their operations while respecting the needs of satellite radio listeners. The Commission should retain this technical standard unless it is proven to be unnecessary for all possible WCS technologies and deployment scenarios

⁵ As an initial matter, the WCS Coalition's reliance on a simulation was unnecessary because some Coalition members already operate LTE mobile broadband networks in other bands, which could provide empirical data on the same issues.

⁶ The simulation assumes that the UE operates at 23 dBm output power with a -3 dBi antenna gain. See January 26 Letter, at Attachment, p. 8.

⁷ *Id.* at Attachment, p. 3.

⁸ See Letter from James S. Blitz and Terrence R. Smith, Sirius XM Radio Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 07-293 (filed August 03, 2009).

authorized under the FCC's flexible use rules. However, the lack of concrete data submitted with the January 26 Letter makes it impossible for the Commission to make this determination.⁹

Respectfully submitted,

/s/ James S. Blitz

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⁹ Sirius XM intends to provide a further analysis of the Coalition's simulation in the near future, to the extent such an analysis is possible in the absence of the full simulation code. Moreover, the Commission should be aware that Industry Canada ("IC") has said it plans to conduct independent testing of the interference potential between LTE systems and satellite radio in Canada. This testing, which IC intends to conduct later this year, may provide further insights into this issue and others that the Commission is considering in this proceeding.